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10/025,280	12/19/2001	Jan Kevelam	C7582(V)	5511

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PATENT DEPARTMENT
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EXAMINER

DELCOTTO, GREGORY R

ART UNIT PAPER NUMBER

1751

DATE MAILED: 07/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/025,280

Applicant(s)

KEVELAM ET AL.

Examiner

Gregory R. Del Cotto

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-12 are pending. Claims 13-15 have been canceled. Applicant's amendments and arguments filed 5/5/03 have been entered.

Applicant's election of Group I, claims 1-12 in Paper No. 5 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). This requirement is made FINAL.

Objections/Rejections Withdrawn

2. The following objections/rejections as set forth in Paper #4 have been withdrawn:

The rejection of claims 1-12 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention has been withdrawn.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 1, it is vague and indefinite in that it is unclear what is meant by "5:1 to 100,000". It is not clear what the lower limit of the ratio is supposed to be and appears as though a deletion has occurred. For purposes of examination, the

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Examiner has interpreted the limitation to read "5:1 to 100,000:1." Clarification is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1 and 3-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeSimone et al (US 5,866,005) in view of Schlenker et al (US 5,269,815).

DeSimone et al teach carbon dioxide is employed as a fluid in a liquid, gaseous, or supercritical phase. The CO₂ fluid used in cleaning applications can be employed in a single or multi-phase system with appropriate and known aqueous and organic liquid components. If liquid CO₂ is used, the temperature employed during the process is preferably below 31 degrees Celsius. See column 2, lines 35-50. Such components generally include a co-solvent or modifier, a co-surfactant, and other additives such as bleaches, optical brighteners, enzymes, rheology modifiers, etc. Any or all of the components may be employed in the CO₂-based cleaning process prior to, during, or after the substrate is contacted by the CO₂ fluid. See column 2, lines 35-65. Exemplary solutes which may be used as co-solvents include alcohols such as methanol, ethanol; amines such as N-methyl pyrrolidone, amides such as dimethyl acetamide, etc. The process employs an amphiphilic species contained within the carbon dioxide fluid. The amphiphilic species is generally present in the carbon dioxide fluid from 0.001 to 30 weight percent and it is preferred that the amphiphilic species contain a segment which has an affinity for the CO₂ phase, and more preferably, the amphiphilic species also contains a segment which does not have an affinity for the CO₂ phase (CO₂-phobic) and may be covalently joined to the CO₂-philic segment. See column 3, lines 20-60. Amphiphilic species which are suitable for the composition may be in the form of

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random, block, and star homopolymers, copolymers, and co-oligomers. Various components which are suitable for the process are encompassed by the class of materials known as fluorinated surfactants. See column 4, line 40 to column 5, line 10.

DeSimone et al teach that two types of co-solvents or modifiers may be employed, namely one which is miscible with the CO₂ fluid and one that is not miscible with the fluid. When a co-solvent is employed which is miscible with the CO₂ fluid, a single phase solution results. When a co-solvent is employed which is not miscible with the CO₂ fluid, a multi-phase system results. See column 3, lines 1-20. Note that, the Examiner maintains that the broad teaching of DeSimone et al would encompass in which the polar solvent is present as a microemulsion within the densified CO₂ because DeSimone et al suggest compositions containing surfactants in amounts which would allow the polar solvent to be present as a microemulsion.

DeSimone et al do not specifically teach the use of a hydrophilic fluorescent agent such as a distyrylbiphenyl derivative or a dry cleaning composition containing densified carbon dioxide, a polar solvent, surfactant, hydrophilic fluorescer such as a distyrylbiphenyl derivative, and the other requisite components of the composition in the specific proportions as recited by the instant claims.

Schlenker et al teach a process for the fluorescent whitening of hydrophobic textile materials, especially polyesters, wherein the textile material is treated with disperse fluorescent whitening agents in supercritical CO₂. See Abstract. Suitable fluorescent agents include distyrylbenzenes, vinylstilbenes, stilbenzylbenzoxazoles,

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bis(benzoxazoles), coumarins, styrylbenzoxazoles, distyrylbiphenyls, etc. See column 2, line 20 to column 4, line 20.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to use a hydrophilic brightening agent such as a distyrylbiphenyl derivative in the dry cleaning composition taught by DeSimone et al, with a reasonable expectation of success, because Schlenker et al teach the use of hydrophilic brighteners such as a distyrylbiphenyl derivative in a similar supercritical CO₂ composition used in treating textiles and, further, DeSimone et al teach the use of optical brightening agents in general.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to formulate a dry cleaning composition containing densified carbon dioxide, a polar solvent, surfactant, hydrophilic fluorescer such as a distyrylbiphenyl derivative, and the other requisite components of the composition in the specific proportions as recited by the instant claims, with a reasonable expectation of success and similar results with respect to other disclosed components, because the broad teachings of DeSimone et al in combination with Schlenker et al suggest a dry cleaning composition containing densified carbon dioxide, a polar solvent, surfactant, hydrophilic fluorescer such as a distyrylbiphenyl derivative, and the other requisite components of the composition in the specific proportions as recited by the instant claims.

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Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over DeSimone et al in view of Schlenker et al as applied to claims 1 and 3-12 above, and further in view of WO 96/27704.

DeSimone et al and Schlenker et al are relied upon as set forth above. However, neither reference teaches the specific surfactant in addition to the other requisite components of the composition as recited by instant claim 2.

'704 teaches a dry cleaning system for removing stains from fabrics comprising an effective amount of densified carbon dioxide, 0.001% to 10% by weight of a surfactant which is soluble in the densified carbon dioxide and which is represented by the formula $R_nZ_{n'}$, wherein R_n is a densified CO₂-philic functional group, R is a halocarbon, a polysiloxane, or a branched polyalkylene oxide and n is 1 to 50; $Z_{n'}$ is a densified CO₂-phobic functional group and n' is from 1 to 50. See page 67, claim 1.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to use a surfactant having the general formula $R_nZ_{n'}$ in the dry cleaning composition taught by DeSimone et al, with a reasonable expectation of success, because '704 teaches the use of surfactants having the general formula $R_nZ_{n'}$ in a similar densified CO₂ containing dry cleaning composition and, further, DeSimone et al generally teach the use of surfactants having CO₂-philic and CO₂-phobic groups.

Response to Arguments

With respect to the rejection of the instant claims using DeSimone et al in view of Schlenker et al, Applicant asserts that the references are not combineable and that the Examiner has not established a prima facie case of obviousness. Note that, in

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response, the Examiner maintains that DeSimone et al teach that the CO₂ employed may be used at temperatures below 31 degrees Celsius which would fall within the temperature as recited by the instant claims; further DeSimone et al teach that optical brighteners may be used in general. Schlenker et al is a secondary reference relied upon for its teaching of certain optical brighteners suitable for use in CO₂. Thus, the Examiner maintains that Schlenker et al provides clear motivation to one of ordinary skill in the art to use the specific optical brighteners in the composition taught by Desimone et al, with a reasonable expectation of success, because Schlenker et al teach the use of the specific optical brighteners in a similar CO₂ composition and DeSimone et al teach the use of optical brighteners in general in a CO₂ composition having a temperature within the range recited by the instant claims.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Remaining references cited but not relied upon are considered to be cumulative to or less pertinent than those relied upon or discussed above.

Applicant is reminded that any evidence to be presented in accordance with 37 CFR 1.131 or 1.132 should be submitted before final rejection in order to be considered timely.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory R. Del Cotto whose telephone number is (703) 308-2519. The examiner can normally be reached on Mon. thru Fri. from 8:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra Gupta can be reached on (703) 308-4708. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

GRD
July 14, 2003

GREGORY DELCOTTO
PRIMARY EXAMINER

